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ABSTRACT

This study compared the academic and social development of students who entered grade 1 very early (5:6 years or 5:7 years), in the mid range (5:8 to 6:3 years), and very late (6:4 years or older). The purpose of the study was to explore the hypothesis that the early grade 1 entrants would have continuing problems in both academic and social functioning relative to their older classmates. In order to assess the short and long term effects of school entrance age, a cross-sectional study was conducted. Approximately 200 students in grades 2, 6, 8, and 10, randomly selected from one school district in Alberta, Canada, participated in the study. Data on the subjects' academic and social adjustment were obtained from a combination of standardized tests, teacher ratings, and school records. Results provided only moderate support for the hypothesis. Although means and proportions for the different groups were found to fall quite consistently into the predicted pattern, few of the differences were statistically significant; enough variability was evident among students in each of the age groups to override differences between the groups. Results also indicated that young students were more at risk in terms of repeating a grade than older students, but that this was at least partially a result of lesser reluctance to hold a young student back. In terms of administrative decisions, results did not provide a clear statistical rationale for raising the entry age. (Author/MP)

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RESEARCH REPORT

GRADE ONE ENTRANCE AGE STUDY

Researcher: Dr. Kerrie Pain

Project Director: J. B. Findlater

for

St. Albert Protestant Separate School
District No. 6

"UNDER CONTRACT TO ALBERTA EDUCATION, EDMONTON, ALBERTA"

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I. EXECUTIVE SUMMARY

"This study was completed in the St. Albert P.S.S.D. No. 6 during the spring of 1981 with the cooperation of the Planning and Research Branch of Alberta Education."

This study compared the academic and social development of students who entered Grade One very early (5 years, 6 months or 5 years, 7 months), in the mid range (5:8 to 6:3) and very late (6:4 or older). Approximately 800 students were studied in grades 2, 6, 8, and 10 through a combination of standardized tests, self-report inventories, teacher ratings and school records assessment.

Overall, there were few statistically significant results, although means fall consistently into a young-middle-old pattern. Differences in grade 8 tend to be somewhat more significant than in the other grades. Differences in grade 10 are difficult to interpret because of the very low proportion of young students appearing in the sample at this level.

Briefly, results were as follows:

a) Young students in grades 2, 6 and 8 repeated grades more often than older students.

b) In grades 6 and 8, young students received more remedial help; in grade 10, the reverse was found.

c) Older students consistently score higher on readiness tests at the beginning of grade one than younger students.

d) On a standardized measure of reading skill, older students in grade 8 scored higher than younger students. The same pattern was found in grade 6, but was not significant. In grades 2 and 10 there were no differences.

e) There were no differences in report card grades for old and young students in grades 2, 6 or 10. In grade 8, older students received higher scores than younger ones in Science, Social Studies and Physical Education.

f) There were no significant interactions between cognitive ability and entry age for academic or social variables. (Testing and analysis done only in grade 8).

g) On a self-concept inventory, older students scored consistently higher than younger ones, but the difference was significant only in grade 6.

h) Teachers' assessments of behavior problems indicated no significant differences among groups in grades 8 and 10, and only scattered differences in grades 2 and 6. Specifically, in grade 2, younger students were seen to be more impulsive and to disrupt class discipline more frequently than older ones. In grade 6, differences occurred in the amount of fighting or quarrelling, needing to be coaxed to work with others, and becoming sick when faced with a problem.

i) Sociogram results indicate that older grade 2 students are more likely to be chosen by their classmates for a ball team, and that older grade 8 students are more likely to be chosen in all categories, particularly in planning a party.

j) The only significant difference in the proportion of young and old students chosen by their teachers as 'good' or 'poor' in achievement was in grade 8, although differences in grades 2 and 6 were also in the predicted direction.

In conclusion, results of this study do not refute the general finding in the literature that young children are at a continuing disadvantage, relative to their peers, but they do not lend strong support to the idea. A surprising result is the magnitude of the effects in grade 8, where previous research has found the effect of relative age to have diminished.

In terms of administrative decisions, results of this study do not provide a clear statistical rationale for raising the entry age. They do provide evidence that at least some very young students score lower than their peers in academic and social areas, and that this difference persists into Junior High School, but differences within any age group tend to over-ride differences between ages. Results do indicate that young students are more at risk in terms of repeating a grade than older students, but this is at least partially a result of lesser reluctance to hold a young student back.

Results of the study must also be interpreted in terms of relative age, since regardless of cut off dates for entry there will always be some students younger than others in a grade. Raising the entry date would not affect this, although it might reduce the age span in a grade since some children appear to be starting a year later than expected.

II. INTRODUCTION

A long standing debate among educators has centred around the most appropriate age for beginning school. While some have argued for early entrance in order to provide additional instruction time, others have pressed for later entrance in order to ensure that students have the requisite maturity to cope with academic instruction.

In the St. Albert Protestant Separate School District No. 6, students are admitted to Grade I classes if they reach six years of age on or before February 28 of the current academic year. This means that some students begin formal schooling when they are only 5-1/2 years of age. There appears to be a widespread concern among teachers and other school personnel that those children who begin grade one relatively young may have continuing problems in both academic and social functioning. The general impression appears to be that less mature children experience more difficulties in school, which can adversely affect both current and future functioning. This concern is well documented in a recent survey conducted by the Calgary Board of Education (Report to Regular Board Meeting, February 1981). A majority of the teachers at all levels felt that the present cut-off date was unsuitable, with very young pupils too immature for kindergarten and Grade I programs. (The Calgary Board of Education has subsequently raised its age requirements from 5 years-6 months to 5 years-8 months at September 1.)

A literature review has generally supported this impression, with a number of studies reporting a relationship between school entry age and measures of school success. There appear to be two related aspects of the problem.

One concerns the absolute age required for most children to have sufficient social, physical and cognitive maturity to succeed in typical school programs. The other aspect of the problem concerns relative age. When all students begin classes at only one time during the year, there is always going to be at least a one year age span in any grade, regardless of the established entry age.

Both of these issues appear to be relevant here, but since the entry age has been constant for a number of years, the latter (the issue of relative age) will be addressed more specifically.

A second research concern has been the issue of 'adequate' vs 'optimal' development. The issue here is the extent to which students maximize their overall potential. Of particular concern are bright students who enter school at a young age and the extent to which they continue to do above average work in the long term. Several studies seem to indicate that young, bright students do not succeed as well as older, bright students.

III. REVIEW OF LITERATURE

Many educational researchers have attempted to find a relationship between the child's age at school entrance and the level of adjustment and academic success achieved by the child. In order to limit the size of of this review any research published prior to 1950 was not considered. For the same reason, a large number of'opinion' articles which did not report on research studies or surveys were omitted. The remaining research findings have been grouped in five parts. Each section examines one part of the entry age - school success relationship or a problem related to entry age.

PART I

Does school entry age affect academic achievement?

Research findings that discussed the relationship between age and academic performance are the most numerous. The studies are arranged chronologically. The selection is intended to be representative of the research in the area, both in the nature of the studies and in the findings reported.

Hamalainen (1952) conducted a survey of 33 elementary school administrators in Nassau County, New York. Children entering kindergarten at less than four years and nine months or grade one at less than five years and nine months were considered underage. The principals reported greater problems in scholastic achievement for the underage group than for the normal age or over age groups. By grades four to six this discrepancy had disappeared.

King (1955) followed the progress of 104 children over a six year period in the elementary schools of Oak Ridge, Tennessee. Age required for school entrance was five years, eight months. The younger group had a mean age of five years, ten months at entry into grade one, while the older group's mean age was six years, seven months. All were of average intelligence (90-110 I.Q.). The younger group experienced difficulty in attaining grade level academic skills and a large number fell far below their grade level. In addition, a larger number from the young group repeated a grade.

Carter (1956) studied 100 children from grade two to six in Austin, Texas. The children were matched on sex and I.Q. The underage group were less than six years at grade one entry; the normal age group were over six years. The younger children had a lower academic performance in arithmetic, spelling, reading

and English at each grade level.

Clyde Baer (1958) conducted a study of 146 students through eleven years of school in Kansas City, Missouri. Entry age for kindergarten was 5 years by November 1st. However, children with November and December birthdays and a mental age of 5-0 could be admitted. Baer matched an underage group (November and December birthdays) with an overage group (January and February birthdays). The average group made better school progress with significantly higher marks in arithmetic, reading and social studies and with fewer grade failures.

Hampleman (1959) compared the relationship between school entrance age and eventual reading success at grade six in Bloomington, Indiana. The younger group had all those children who were six years, three months or younger at grade one entry; the older group had those six years, four months or older. These groups were halved to allow further comparisons. The mean reading achievement score of the oldest quarter was seven months above the mean score of the youngest quarter.

Dickenson and Larson (1963) studied 480 fourth graders in Sioux Falls. The younger group entered school before six years and became six by November 1st in grade one. The older group, who were six on school entrance, scored higher on the Iowa Test of Basic Skills. The researchers theorized that the perisistance of superiority until fourth grade may be a "snowball" effect whereby the older, more able child receives positive reinforcement early which then motivates further success.

Carroll (1963) found similar results in a study of third grade students in upstate New York. There, the minimum entry age to grade one was five years, eight months. The younger group attained five years in the last quarter of the year. The older children made consistently higher scores on the California Reading and Arithmetic Achievement Tests. Carroll concluded that even a few months of additional development may create an advantage in formal education.

Vance Hall (1963) examined the relationship between entry age and achievement by conducting a study of retention in suburban Seattle. In the chosen school district, 801 of 12,800 elementary students had been retained. 77.9% of the retained boys were considered young (i.e. less than six years six months at entry into grade one). 80% of the retained girls were also in the younger group. The minimum entry age for this school district is six years by September 15th. When tested on the S.R.A. Achievement Series, the average retainees achieved at a higher level than the underage retainees.

Johnston (1974) reported on a statewide survey conducted by the Illinois Association for Childhood Education. Minimum entry age to grade one was five years, eight months. Children were grouped as youngest (September, October, November or December birthdays), oldest (born in January, February or March) and middle (born in April, May, June, July or August). The youngest children had the poorest reading achievement, regardless of ability level, and the highest retardation rate.

Halliwell and Stein (1974) studied the achievement in vocabulary, comprehension, arithmetic reasoning, arithmetic fundamentals, language and spelling of fourth and fifth grade students in Long Island. The children were divided into three month groupings based on their ages at entrance to grade one. Minimum

entry age was five years, ten months. In all subject areas the oldest fourth grade group was significantly superior to the youngest group. The oldest fifth grade group was significantly superior in all areas except arithmetic fundamentals.

Miller and Norris (1967) studied 135 students in Murfreesboro, Tennessee at a time when Tennessee was adjusting entry ages. The study looked at three age groups: early - 5.8 to 5.11 at grade one entry, normal - 6.0 to 6.7, and late - 6.8 to 6.11. On readiness tests administered in kindergarten the early group scored significantly lower than the normal and late groups. However, by the end of four years, the early group's achievement showed no significant difference from that of the normal group.

Binkley (1969) in another study of Tennessee children, found a weak relationship between chronological age and fourth grade achievement in reading, spelling and arithmetic. Other variables, such as sex and socio-economic status were predictors of school success.

Ilika (1969) matched two groups of Oregon children on sex, intelligence and socioeconomic status. The older group had a mean entrance age of six years, nine months, while the mean for the younger group was six years. Initially the older children had a faster rate of scholastic development than the younger children. Eventually this faster rate declined, but the older children still maintained some academic advantage.

Throughout the 1960's and 1970's Ames and Ilg, researchers from the Gesell Institue of Child Development have forcefully stated their belief that a large percentage of American children begin grade one before they are ready for formal

reading instruction. The Gesell Institute recommends starting children in school on the basis of behavioral age rather than chronological age. The Institute has developed a battery of tests to determine the child's level of school readiness. Ames and Ilg recommend careful screening of school beginners and a minimum grade one entry age of six years for girls and six years, six months for boys.

Hirst (1970) completed a study in Cheyenne, Wyoming which challenges the reliability of entrance age as a predictor of academic success. She followed the progress of 300 children from kindergarten entrance to grade two. Hirst found age has no practical significance in predicting scores for first or second grade reading and arithmetic.

Austin and Postlethwaite (1974) re-examined a study completed on the educational achievement of children in twelve countries in order to determine if a relationship existed with entry age. Countries with younger school entry age had higher scores in mathematics at age thirteen, but lower scores in reading and science at age ten. The authors admit that the achievement scores may well be the result of other variables, since the study was international in scope.

Although less research has been recently devoted to the effects of entry age, Davis, Trimble and Vincent (1980) have produced a valuable study from the Kentucky Public schools. They examined the school records of 17,000 to 19,000 children in each of grades one, four and eight. Minimum grade one entry age was five years, eight months. The achievement of the younger third (i.e. September, October, November and December birthdays) was compared to the remaining older group. In both grades one and four, the older group (already six at school entry) scored significantly higher in reading, language, math and

total achievement. By grade eight the older group was significantly higher in only one area, reading. Older students appear to begin school at a greater academic advantage, and maintain an advantage over their younger classmates, at least in reading.

Despite a few contradictory findings, research results indicate a definite relationship between school entry age and academic success. The older children in grade one have a greater chance of success. Virtually all of the school districts examined had minimum entry ages above the current effective entry ages in Alberta.

PART II

Does school entry age affect social and emotional adjustment?

Teachers have expressed concern, not only about the academic performance of their youngest students, but also about the ability of young entrants to adjust socially and emotionally within the school environment. Several of the studies already cited examined social and emotional maturity along with academic performance. In addition, a few researchers focused mainly on the adjustment of young school entrants.

In his survey of elementary principals, Hamalainen (1952) asked what were the most common problems faced by under-age and mormal-age children in their schools. 91% of the principals felt under-age children faced social adjustment problems in grades 1-3, while 45% felt normal-age children faced such problems. 94% felt under-age children had emotional adjustment problems, while only 33% felt normal age children had such problems in grades 1-3. This wide discrepancy between the older and younger groups in social and emotional adjustment was also reported in grades 4-6.

King (1955) found that the younger group in her study had a lower average daily attendance. King found more children in the younger group received special help from the guidance department or attended a corrective speech class. Markedly more young children were described by their teachers as having personal and social maladjustment.

Baer (1958) examined adjustment as well as scholastic progress in his study. At the close of each school year every student was rated by his teacher on seven personal traits: participation in group activities, attitude toward school regulations, appearance, dependability, emotional stability, initiative and cooperativeness. For all traits the older group was rated significantly higher than the younger group.

Carroll (1963) also asked teachers to rate students on personal traits. The two age groups rated evenly or fairly evenly on responsibility, respect for rules, social acceptance and attitude toward adults. The older group was rated significantly higher on attention span, independence and social maturity.

At about the same time, the Grosse Point, Michigan board of education decided to end a program of selected early entrance that had been in operation for 14 years. Children within a few months of the minimum entry age were evaluated psychologically and then selected for early school admission. Mawhinney (1964) reported that 30.6% of these early entrants were considered poorly adjusted and that, although 24.4% were superior academically, another 25.3% were below average or had repeated a grade. This record was a major factor in the board's decision to terminate the program.

Two relatively recent studies, Evans (1974) and Binkley (1968-69) have examined

the relationship between entry age and school adjustment for culturally deprived, inner city children. Evans asked randomly selected fourth grade teachers to complete the Peterson Quay Behavior Problem Checklist for their students. The students were grouped by age on kindergarten entry into early entry, average entry and late entry. The youngest group showed a significantly higher score on the conduct disorder portion of the checklist. By comparison, Binkley's research found chronological age to be a relatively unimportant factor in either academic achievement or personal and social adjustment.

Weinstein (1968-69) conducted two studies which focused on the relatively younger school entrants and their later adjustment. The first study examined the previous school placements of 250 children at a residential program for the emotionally disturbed. Almost half had been early entrants to school (i.e. birthdates within 4 months of the cut-off date). Weinstein's second study compared a disturbed and a non-disturbed group of students in Nashville public schools. The disturbed group had been significantly younger on school entrance. When the non-disturbed group was divided into older and younger sections, the younger children were viewed more negatively by classmates and had a much higher failure rate. Weinstein's assumptions about the importance of school entry age relative to classmates will be discussed later.

PART III

Does sex affect the relationship between school entry age and success?

Although entrance age appears to have a definite effect on later achievement and adjustment, age at entry may be even more critical for boys than for girls. Many teachers and parents presume that girls begin school ahead of the boys in intellectual development and maturity. Do young boys start with a double deficit?

King (1955) found that more young boys than girls were retained in a grade and that young boys were likely to be referred to corrective speech class. Baer (1958) examined yearly teacher ratings on students' personal traits. Girls were rated higher than the boys of their respective age groups on all seven traits. The differences between boys and girls on attitude toward school regulations, dependability and emotional stability exceeded the difference between age groups. Similarly Carter (1956) found that chronological age has more effect on boys' academic success than girls'. The underage boys made lower scores and fewer higher scores than the underage girls.

In his study of 801 students retained in a grade in a Seattle school district, Hall (1963) found that three times as many boys as girls had been retained. In a subsequent series of achievement tests administered in the same school district, Hall found that girls scored at a higher level, especially in reading and language. The underage boys scored lower than any other group; in some achievement areas they were two years behind the overage girls.

The Illinois survey reported by Johnson (1964) showed boys to be lower in emotional adjustment than girls. The same study indicated no significant difference in the emotional adjustment of the youngest and oldest group. Hirst (1970) found sex was a significant variable in the prediction of reading success in first grade.

Although Binkley (1968-69) and Evans (1974) came to different conclusions about the influence of entry age on the school success of inner city children, they both agree on the reliability of sex as a predictor of school success. Binkley

found girls scored higher than boys in reading, spelling and social adjustment. Evans concluded young boys were the most disadvantaged group in inner city schools.

These studies indicate a general disadvantage encountered by young boys in school. Ames and Ilg (1978) of the Gesell Institute and Vance Hall recommend a delayed entry age for boys.

PART IV

Should early entry for mentally advanced children be permitted?

Although research indicates that chronological age can be used to predict later school achievement, especially for children of average intelligence, it is a limited tool when used for individual assessment. The children most frequently overlooked in curriculum planning and in admission policies are the intellectually gifted. Many researchers feel more flexible admission policies should be adopted to meet the needs of these bright children.

In Brookline, Massachusetts a policy of early admission to kindergarten for intellectually advanced children has been followed since 1932. Early admission is limited to those children within six months of the minimum entry age and with a minimum mental age of 5-2. In addition careful screening for social and emotional maturity is carried out. Hobson (1962) followed 550 underage entrants for ten years. These students outperformed their classmates in scholastic achievement, extracurricular participation, honors and college admissions.

Vera Miller (1957) examined the effect of early entry age on the achievement of children in kindergarten and grades one and five in Evanston, Illinois. She

also gathered teacher assessments and attempted to measure peer acceptance. Evanston's minimum grade one entry age was five years, eight months; early admission was only considered for children within three months of that age and after readiness screening. The early entrants compared favourably with their average age classmates academically, socially and emotionally in fifth grade.

Ahr (1967) reports similar results from an early admission project in the Skokie school district of Chicago. There children within three months of the minimum entry age are also screened. The early entrants surpassed their grade peers on standardized tests throughout elementary school.

Birch, Tisdall and Barney (1964) followed the progress of nineteen children admitted early to Pittsburgh schools. The study concluded the children performed well and were accepted as well as the regular students.

However, not all researchers agree that early admission for gifted children is wise. A fourteen year program of early entrance was terminated in Michigan, when it was discovered that 30.6% of the early entrants were considered poorly adjusted. (Mawhinney, 1964).

Bevington (1957) studied the progress of 640 Edmonton children over a six year period. The underage group, with mental ages beyond their chronoloigcal ages, showed no significant difference from the normal age students academically. However, the underage group failed to achieve the same proportion of accelerations and honour standings as the normal age group. Halliwel and Stein (1964) feel early, bright entrants appear to do well when compared to older students of average ability, but they do not do as well as older students of similar ability.

Does early admission deprive such children of academic excellence?

PART V

Questions arising from the review of the literature

1. Is relative entry age a more important variable than actual chronological entry age?

   Most of the research on school entry age is concerned with finding the 'best' age for beginning formal education. Laura Weinstein approached the problem of school entrance age with the hypothesis that it is the child's age relative to the ages of his classmates that determines the child's level of achievement and adjustment. The youngest children in a grade one class are at a disadvantage because they are the youngest, not because they are five years, six months or five years, eight months. For school beginners a twelve month span in age creates a great range in development within one classroom. Weinstein mentions ungraded classes or streaming or age groupings as possible solutions.

   It should be noted that there was no uniformity of minimum entrance ages noted in the research. Also, all the studies compared the older and younger students within the usual twelve month age range.

2. Should the school adjust its curriculum to accommodate the individual readiness levels of first grade students?

   The question of the 'best' age to start school leads to a more fundamental issue. Should the child be ready for school or the school ready

for the child? The age of entry has less importance when the school is prepared to develop a curriculum which allows for many levels of readiness. A flexible curriculum might ameliorate the difficulties caused by the immaturity of some grade one entrants and by the great developmental range so common in grade one.

Miller and Norris (1967) found young entrants to Murfresboro, Tennessee schools scored significantly lower than the normal and older age groups on readiness tests administered in kindergarten. However, by fourth grade this difference in achievement had disappeared. They attributed the absence of significant group achievement differences to the effectiveness of the school district's individualized reading instruction in the primary unit (traditionally grades one, two and three).

Ammons and Goodlad (1955), Green and Simmons (1962-63), Johnston (1964) and Binkley (1969) all recommend flexible curriculum as one method to counter the variables present at school entrance.

CONCLUSION

This review of the literature suggests several solutions to the problem of school entry age:

1) an older entry age (i.e. older than five years, six months) if the first grade is a traditional, learn to read program

2) flexible admission policies

3) individual assessment before school entry

4) flexible primary curriculum to foster individual progress.

IV. METHODOLOGY

In order to assess short and long term effects of school entrance age, a cross sectional study was conducted, examining academic and social adjustment indicators in four grades.

Through random selection of classrooms, approximately 200 students in grades 2, 6, 8 and 10 were chosen for the study. (This represents approximately 2/3 of the St. Albert school population at these grade levels.)

Data was collected through a combination of standardized tests, teacher ratings, questionnaires, and school records assessment. A brief summary of the measures included is as follows:

A. Academic success and intellectual development

   a) The Gates-MacGinitie Reading Test.(A standardized test giving Vocabulary and Comprehension scores)

   b) Report card marks for the preceding term

   c) History of retentions

   d) Special class placements or special programs

   e) The Canadian Lorge Thorndike Intelligence Test. (This was administered only in Grade 8 to provide an assessment of intelligence and it's possible interaction with entrance age)

B. Social Adjustment indicators:

   a) The Piers-Harris Self-Concept Test. (This is an 80 item measure of feelings about oneself. The items were read to grade two classes and self-administered in other grades.)

   b) Sociogram. (Each student was asked to choose the 3 class members he/she would prefer to plan a class party, work on a class project, have on a ball team oraccompany on a summer holiday. A student's score consisted of the percentage of classmates choosing him or her in each category).

c) Teacher nomination. (Teachers were asked to select 3-6 students from theirclasses that they considered to be developing very well or very poorly in academic subjects and in social skills.)

d) The AML Behavior Rating Scale: (This is a quick screening device consisting of 11 questions concerning 3 possible problem areas: aggressiveness, moodiness, and learning difficulties. It appears to be effective as an indication of behavioral problems in classroom settings, perceived by teachers.)

C. Demographic Variables: (these were recorded from school records)

a) Date of birth and date of grade one entrance

b) Kindergarten attendance

c) Father's and mother's occupations (Coded using the Blishen Scale of Occupations (1966) as an indicator of Socio-economic status)

d) Metropolitan Readiness test score.

Data was collected within a three-week period, with tests administered by teachers during regular class periods.

V. RESULTS

After data collection was complete, students in each grade were assigned to 'young', 'middle' and 'old' groups according to their age at the beginning of grade one. The young group consisted of students with January or February birthdates (5:6 or 5:7 years at the beginning of grade 1) and the 'old' group were those with birthdates on or before April 30 of the year preceding grade one. (6:4 years or older). The middle group fell between these extremes.

This division resulted in the distribution of students shown in Table I.

TABLE I Numbers and percentages of students in the different age groupings

	Gr. 2	Gr. 6	Gr. 8	Gr. 10 (2mo.)	Gr. 10 (3 mo.)
Young	28 (13%)	30 (14%)	17 (9%)	7 (4%)	21 (13%)
Middle	132 (62%)	134 (64%)	125 (64%)	116 (69%)	83 (50%)
Old	53 (25%)	45 (22%)	52 (27%)	44 (26%)	63 (38%)
TOTAL	213	209	194	167	167

This distribution is considerably different from that predicted by chance. If students were entering St. Albert schools as early as permitted, one would expect 1/6 (16%) early birthdates, and 1/6 late birthdates. Apparently, some students eligible to start grade one very early are staying out of school an extra year, adding to the number of older starting students. The number of students starting grade one at 6:4 or older may also be affected by transfers into the St. Albert system from jurisdictions requiring students to be somewhat older when beginning grade one.

The proportion of early entering students in grade 10 is particularly low (4%). This may be the result of a number of factors. Since the entry age was reduced in 1970, only one year before these students began school, this may have reduced the number of parents aware of the possibility of early entry and able to revise school starting plans. It also reduces the number of young students now in grade 10 by virtue of failing one or more previous grades. Also, a disproportionate number of young children may have left the St. Albert system, or there may be chance factors operating in the particular sample of students selected in grade 10, which has happened to reduce the number of young students.

The low number of very young students in grade 10 necessitated a re-grouping for data analyses. Therefore, for grade 10 only, a 3-month age span was used to define the 'youngest' and 'oldest' groups instead of the 2-month span used in different grades. ('Young' = 6:6 to 6:8; 'Old' = 6.3 or older). This change resulted in groups large enough to apply statistical analyses as in other grades.

Results of the analyses will be presented in three sections: Demographic variables, Academic success and Social/Personal adjustment.

A. Demographic variables:

One of the issues to be explored in this study concerned the relative number of old and young students who have repeated a grade, received remedial or enriched instruction, or were put into special classes. Table II presents a comparison of the percentage of young and old students reported in these categories.

TABLE II Percentage of young and old students reported as repeating or in special programs

	Grade Two		Grade Six		Grade Eight		Grade Ten (Gp. 3)	
	Young	Old	Young	Old	Young	Old	Young	Old
1. Repeat Grade	(n=28)	(n=53)	(n=30)	(n=46)	(n=17)	(n=52)	(n=21)	(n=63)
Boys	40%	7% **	9%	0%	10%	10%	20%	24%
Girls	0	8	21	4	29	6	9	11
TOTAL	21	8	17	2 *	18	8	14	18
2. Remedial Programs								
Boys	33 %	21 %	18 %	5 %	0 %	5 %	10 %	12 %
Girls	8	8	26	0 **	43	6 *	0	43 *
TOTAL	14	15	23	4 *	24	6 *	5	26 *
3. Enrichment Programs								
Boys	7 %	28 %	9 %	5 %	0	0	0	6 %
Girls	23	8	0	0	0	0	0	0
TOTAL	14	19	3	2	0	0	0	3

* $p < .05$

** $p < .01$

In grades 2, 6 and 8, young students were at least twice as likely to repeat a grade as older students. In grade 2, in particular, 40% of the boys who began school at 5:6 or 5:7 repeated at least one year of school compared to 7% of the older students. In grade 6, 17% of the young group had repeated a grade, compared to 2% of the older group. It is difficult to interpret the grade 10 results, since the number of 'young' repeaters is limited by the fact that the age of entry had been changed only one year before these students began school. This leaves few young students to fall back into the current grade 10 class.

There were also significant differences between the proportion of young and old students receiving remedial help. In grades 6 and 8 almost a quarter of the young group have received such help, while only 4 - 6% of the old group have. In grade 10, the pattern is reversed, particularly for girls, with older girls receiving significantly more remedial help. There were no differences in enrichment program placements.

The entry age of those in adaptation and opportunity classes was also examined. Of the 31 students for whom both birth and grade one entrance dates were available, only two (6%) had entry ages in the 'young' range (5:6 or 5:7). In these classes, 14 (45%) started relatively late (6:4 or older). In regular classes, only 22 - 27% started grade one this old. This is perhaps an indication that parents or school staff may have delayed school entry for these children based on an early awareness of potential difficulties.

B. Academic Success:

The question of academic success was assessed using a number of indicators: Metropolitan Readiness test scores (where available), Gates-MacGinitie Reading test results and school report card grades.

Table III presents means and significance tests for the Metropolitan Readiness Test and the Gates-MacGinitie.

The readiness test, administered at the beginning of grade one, shows a significant difference among the means for grade two and six students, with grade eight scores approaching significance at the .05 level. In each grade the young group mean is lower than that for the other students.

(Not enough Metropolitan Readiness test scores were reported in grade 10 for analysis.)

TABLE III: Means and Significance Test Results for the Metropolitan Readiness Test and the Gates MacGinitie Reading Test. (n reported in brackets)

		Grade 2		Grade 6		Grade 8		Grade 10 Gp. 3 (21,86,59)	
		Means	F						
1. Metropolitan Readiness Test	Y	48.0 (25)		63.4 (20)		63.8 (5)			
	M	50.0 (114)	3.52*	69.2 (80)	4.22*	69.6 (27)	2.63		
	O	55.4 (35)		74.4 (22)	(O>Y)	75.6 (14)			
2. Gates MacGinitie Reading Test									
a) Vocabulary	Y	32.9		35.6		27.5		29.3	
	M	32.2	0.36	36.0	0.60	28.8	3.48*	27.8	0.35
	O	33.1		36.9		31.7		28.4	
b) Comprehension	Y	30.2		30.3		24.4		29.8	
	M	30.5	0.43	31.1	2.66	26.3	2.20	27.0	0.97
	O	31.4		33.2		28.7		27.5	
c) TOTAL SCORE	Y	63.1 (26)		64.8 (28)		48.3 (16)		59.1 (21)	
	M	62.6 (126)	0.38	65.8 (122)	2.63	53.0 (114)	3.15*	54.8 (80)	0.76
	O	64.5 (51)		70.0 (44)		58.1 (51)		55.9 (59)	

* $p < .05$

In order to examine current school functioning, the Gates-MacGinitie reading test was administered. These test scores, however, indicate fewer differences than predicted from the readiness test. There are no significant differences in grades 2, 6 or 10.

In grade 8, older students consistently have higher scores than younger students, with significant differences for Vocabulary and Total score.

The same general pattern is found for report card grades. (See Table IV). Again, there were no significant differences in grades 2, 6 or 10. In grade 8, the differences among means are somewhat larger, with older students receiving consistently higher grades than younger students (differences significant in science, social studies, physical education and mean academic grade).

TABLE IV: Report Card Grades and Significance Tests

		Grade 2[1] (27,130,52)		Grade 6[2] (29,131,43)		Grade 8[2] (17,122,50)			Grade 10	
		Mean	F	Mean	F	Mean	F			
1. Language Arts	Y	3.2		3.7		3.1			Eng. 10	Eng. 13
	M	3.2	0.07	4.0	1.68	3.6	2.61	Y	70.2 (5)	58.0 (5)
	O	3.2		4.0		3.8		M	60.9 (16)	51.2 (25)
								O	62.3(11)F=1.41	51.6(50)F=1.07
2. Math	Y	3.0		4.0		3.1			Math 10	Math 13
	M	3.0	0.52	4.1	0.42	3.3	1.37	Y	56.0 (4)	64.5 (4)
	O	3.0		4.0		3.6		M	63.8 (13)	61.8 (8)
								O	64.5 (11)F=0.46	60.0 (6)F=0.13
3. Science	Y	3.3		3.9		2.6				
	M	3.3	1.33	3.9	1.91	2.8	3.12*			
	O	3.4		4.3		3.3				
4. Social Studies	Y	3.3		3.5		3.0			S.S. 10	
	M	3.3	0.58	3.7	0.64	3.3	3.31*	Y	62.0 (9)	
	O	3.3		3.8		3.7		M	66.1 (33)	
								O	61.1 (27)F=1.24	
5. Mean Academic Grades[3]	Y	3.2		3.8		3.0				
	M	3.2	0.89	3.9	0.89	3.2	2.95*			
	O	3.3		4.0		3.6				
6. Physical Education	Y	3.4		4.1		3.7		Y	72.1 (9)	
	M	3.4	0.56	4.0	0.35	3.9	4.46*	M	65.8 (37)F=1.77	
	O	3.5		4.1		4.2	(O>Y)	O	65.9 (28)	
Manova on Academic Subjects		RAO's F=0.89		RAO's F=1.56 p= .13		RAO's F=1.26				

* $p < .05$

1. *Grade 2 Grades = [(No. of skill areas rated (V.G. x 4) + (S x 3) + (I x 2) + E.D.)] divided by the number of skills rated.*
2. *Grade 6 and 8 grades translated as follows:* A= 5, B - 4, C - 3, D - 2, F = 1
3. *Mean Score for all Academic Subject Areas*

In summary, at the beginning of grade one, younger students appear to be significantly less ready for school than older students, but by spring of grade two, differences among groups are very small. No significant differences are found in grade 6, some re-appear in grade 8, but again disappear in grade 10. Differences in academic success in grade 8 alone are somewhat difficult to explain. It may be that, with the onset of puberty, relative age again becomes an important factor. It may also be an indication that tests and grades at this level are better indicators at this level than they are at others, giving more precise results, or this may simply be an artifact in this particular set of data.

In order to assess the rate of intelligence on the question of entry age, the Lorge Thorndike test of cognitive ability was administered to grade 8 students. Students were then divided into high, middle and low cognitive ability groups on the basis of total Verbal and Non-Verbal ability scores. At each age, those at least one standard deviation from the age mean formed the middle group. For these analyses, as for the grade 10 sample, the 'young' and 'old' groups were widened to include a three month range at the ends of the age continuum in order to increase the numbers in the 'young' groups. (Young = 5:6 to 5:8 and old = 6:3 and older for the grade 8 intelligence analyses only.) The number of students in the resulting groups, with corresponding Verbal and Non-verbal ability scores are presented in Table V on the following page.

TABLE V: Mean Verbal and Non-verbal Lorge Thorndike Scores for the different age groups

LORGE THORNDIKE SCORES

		Low	Mid	High	
Young	Verbal	37.2	43.8	56.5	44.5
	Non-Verbal	33.8	48.8	60.8	47.7
	n	5	16	4	25
Middle	Verbal	30.4	45.2	57.7	44.6
	Non-Verbal	29.4	46.5	58.1	45.3
	n	16	55	15	86
Old	Verbal	35.9	46.7	62.0	47.8
	Non-Verbal	29.6	46.8	60.5	46.8
	n	8	40	10	58
TOTAL	Verbal	33.3	45.5	59.0	
	Non-Verbal	30.2	46.9	52.3	
	n	29	111	29	169

TABLE VI: Means and significance tests using both Age and Lorge Thorndike Scores as grouping variables

	Age	Ability Group L	M	H	Intell. Combined	Anova Summary	F	Sig.
A. Mean Report Card Grade:	Y	3.25	3.00	3.75	3.17	Age Effect	3.20	.043
	M	2.17	3.15	4.20	3.15	Ability Effect	24.10	.001
	O	2.69	3.40	4.30	3.47			
Ages combined -		2.50	3.22	4.19	3.26	Age x Ability Interaction	1.94	.107
							F	p
B. Gates MacGinitie Reading Test (total score):	Y	46.2	47.9	51.7	48.0	Age Effect	0.66	.527
	M	43.2	52.8	66.3	53.3	Ability Effect	8.87	.001
	O	54.6	57.0	72.6	59.3			
		46.7	53.6	67.0	54.7	Age x Ability Interaction	2.516	.099
							F	p
C. Piers-Harris Self-Concept Score	Y	47.8	54.8	47.3	52.2	Age Effect	0.28	.761
	M	52.5	53.8	58.1	54.3	Ability Effect	6.42	.005
	O	58.6	55.1	57.9	56.1			
		53.2	54.4	56.8	54.6	Age x Ability Interaction	0.391	.680
							F	Spg.
D. Mean Sociogram Score	Y	6.72	7.75	6.47	7.34	Age Effect	6.02	.003
	M	6.53	9.77	13.14	9.75	Ability Effect	3.15	.045
	O	12.3	12.23	14.95	12.71			
		8.15	10.36	12.84	10.41	Age x Ability Interaction	0.67	.611

In order to analyze the joint effects of entry age and cognitive ability, a number of 2 way analyses of variance were computed. These results are given in Table VI. For each of the four summary variables included, there is a significant intelligence effect, with those with higher Lorge Thorndike scores receiving higher report card grades, scoring higher on the Gates-MacGinitie reading test, having higher self-concept scores, and being chosen more often by classmates. There is also a significant age effect for academic grades and sociogram ratings (as in the one-way analyses).

The interaction between age and cognitive ability is not significant in any of the analyses, however, indicating no differential effect of entry age at different ability levels.

C. Personal and Social Adjustment:

One of the major concerns expressed by the teachers initiating the study involved the social and personality adjustment of young students. To assess this, three instruments were used; a self-concept inventory, a teacher rating of behavior, and a sociogram.

Table VII presents the means and significance tests for each age and grade for the Piers-Harris Self-Concept Inventory. In each grade, the self-concept means fall in the predicted Y-M-O pattern, but the differences are significant only in grade 6. In this grade, the older students appear to feel better about themselves than do the younger students.

TABLE VII: Means and significance tests for the Piers-Harris Self-Concept Inventory scores. (n in groups given in brackets).

		Grade 2 Means(n)	F	Grade 6 Means(n)	F	Grade 8 Means(n)	F	Grade 10 Means(n)	F
Piers-Harris Self-Concept Inventory	Y	60.1(28)		51.6(27)		52.9(14)		51.8	
	M	61.1(126)	0.74	56.8(121)	3.58*	54.5(116)	0.59	54.4	1.24
	O	63.1(53)		59.9(43)	(O>Y)	56.3(45)		56.0	

*$p < .05$

To obtain teachers' perspectives on classroom behavior, they were asked to rate students' behavior in eleven (11) different categories using the AML Behavior Rating Scale. The names of the different categories, mean ratings and significance test results are presented in Table VIII. (Note that a higher score indicates more frequent observation of the problem area).

TABLE VIII: AML Behavior Inventory Means and Significance Tests
(A high score indicates behavior more frequently seen)

		Grade 2 (n=28,130,52)		Grade 6 (30,134,45)		Grade 8 (17,123,51)		Grade 10 (21,80, 60)	
		Means	F	Means	F	Means	F	Means	F
1. Fights or quarrels	Y	2.4		2.4		2.2		1.3	
	M	2.0	2.31	2.0	4.34*	1.8	2.26	1.4	0.36
	0	2.3		1.7	(Y>0)	1.7		1.3	
2. Needs coaxing to work with others	Y	1.9		2.3		1.9		1.4	
	M	1.7	1.62	1.9	3.50*	1.8	1.80	1.3	0.08
	0	1.6		1.7	(Y>0)	1.6		1.4	
3. Restless	Y	2.6		2.5		2.3		1.6	
	M	2.1	2.73	2.1	2.44	2.6	1.59	1.9	0.83
	0	2.3		2.0		2.3		1.8	
4. Unhappy, depressed	Y	2.0		2.1		2.2		1.5	
	M	2.0	0.30	1.9	1.89	2.2	1.13	1.6	0.80
	0	2.0		1.7		2.0		1.4	
5. Disrupts class	Y	2.4		2.3		1.7		1.3	
	M	1.8	3.02*	2.0	2.33	2.0	1.01	1.6	0.36
	0	2.0		1.8		1.8		1.5	
6. Becomes sick when faced with problem	Y	1.7		1.8		1.5		1.3	
	M	1.6	0.78	1.6	3.27*	1.7	0.25	1.3	0.10
	0	1.5		1.4	(Y>0)	1.6		1.4	
7. Obstinate	Y	1.9		2.3		2.4		1.3	
	M	1.7	0.84	1.9	2.70	2.1	0.56	1.3	0.18
	0	1.9		1.8		2.1		1.4	
8. Hurt when criticized	Y	2.7		2.5		2.6		1.4	
	M	2.5	0.72	2.2	1.61	2.6	0.06	1.7	1.10
	0	2.4		2.1		2.6		1.6	
9. Impulsive	Y	2.8		2.3		2.4		1.5	
	M	2.1	5.29**	2.0	2.60	2.5	0.29	1.7	0.76
	0	2.3	(Y>M)	1.8		2.5		1.6	
10. Moody	Y	2.3		2.2		2.4		1.6	
	M	2.1	0.82	2.0	2.06	2.2	0.56	1.6	0.84
	0	2.1		1.8		2.1		1.5	
11. Difficulty learning	Y	2.5		2.4		2.6		1.9	
	M	2.3	1.07	2.0	1.57	2.5	2.03	2.2	2.49
	0	2.2		2.1		2.2		1.9	
Overall Manova RAO's Approx. F			1.15		0.78		1.14		.634

* $p < .05$
** $p < .01$

Although the mean scores for these variables are often in the predicted pattern, overall multivariate analyses of variance indicate no differences among groups in any grade. A few significant differences appear using univariate tests, but because of the number of tests made, these must be treated with some caution. In grade 2, teachers' ratings indicate differences in disrupting class discipline and in impulsivity in students at different ages. In grade 6, differences are found in the amount of fighting or quarrelling with other students, needing to be coaxed to work or play with others, and in becoming sick when forced with a difficult school problem or situation. In each case, the problem is reported more often for young students than for older ones. There were no significant differences in teacher ratings for grade 8 or 10.

Since students often view each other differently than teachers do, sociogram nominations were also collected as indicators of social adjustment. Each student was asked to choose three classmates to plan a party, to work with on a class project, to have on a ball team, and to go away with for a summer holiday. Each student's score was then the number of times he or she was chosen, expressed as a percentage of class size. The total sociogram score is the mean of these individual scores. Means and significance tests are presented in Table IX.

TABLE IX: Sociogram Means and Significance Tests

		Grade 2 (n=28,132,53)		Grade 6 (n=30,134,46)		Grade 8 (n=17,125,52)		Grade 10 (n=21,83,63)	
		Means	F	Means	F	Means	F	Means	F
1.Plan Party	Y	9.7		7.4		5.1		8.0	
	M	12.0	1.47	10.4	0.94	9.5	5.21**	12.6	1.68
	O	13.6		11.2		14.0	(O>M,Y)	12.6	
2.Class Project	Y	10.6		7.9		7.8		10.8	
	M	12.3	0.53	10.6	1.36	10.3	1.36	12.1	0.35
	O	12.6		10.1		11.4		12.6	
3.Ball Game	Y	8.4		7.4		5.6		7.3	
	M	12.1	3.90*	10.1	1.13	10.2	1.81	13.1	1.89
	O	15.7	(O>Y)	12.3		12.0		11.1	
4.Summer holiday	Y	10.9		9.7		8.2		8.5	
	M	12.6	0.41	9.8	0.25	9.6	2.01	11.1	1.37
	O	12.3		10.7		11.5		12.2	
TOTAL	Y	9.9		8.1		6.6		8.6	
	M	12.3	1.98	10.2	1.39	9.9	4.61**	12.2	1.70
	O	13.5		11.1		12.2	(O>Y)	12.1	
Manova (Rao's F)			F=1.36		F=0.91		F=1.85		F=1.34
						Gp.1 vs Gp.3			
							F-2.74*		

*p < .05

**p < .01

The multivariate analyses on the four sociogram scores indicated that there was a significant difference between the scores of young and old students in grade 8. This appears to be largely a result of a difference in the numbers of old and young students chosen to plan a party. Here, older students were significantly more likely to be chosen than young or middle group students. In the other grades, old group means are consistently higher than young group means for each item, but the only other statistically significant result is in grade 2, where older students are chosen more frequently for ball teams.

In summary, the pattern of means for social and personal adjustment appears generally as predicted, with older students scoring consistently higher than younger students. Few of these differences are statistically significant, however, indicating considerable variability in functioning for each group. Differences are never significant for grade 10 students and rarely significant in grade two. A few scores differ in grades 6 and 8, indicating some differences in functioning at these levels.

As a final, very global assessment of "good" development, teachers were asked to name a few students they considered to be doing very well or very poorly in academic achievement and in personal/social development. The results of these nominations are given in Table X. In terms of academic skills, in grades 2, 6 and 8, a higher percentage of old than young students were nominated as doing 'very well', although the proportions are statistically significant only in grade 8.

Of those described as doing 'very poorly', a higher proportion in grades 2, 6, and 8 come from the young groups although, again, none of the differences are significant. In grade 10, the situations are reversed, with more young

students reported to be doing well and more old students reported to be doing poorly. The pattern of results for students nominated as having good or poor social or personal adjustment is more mixed, with no significant differences in proportions.

TABLE X: Percentages of students in young and old groups chosen by teachers as doing "well" or"poorly" in academic and social development

	Grade 2		Grade 6		Grade 8		Grade 10	
	Young (n=28)	Old (n=53)	Young (n=30)	Old (n=46)	Young (n=17)	Old (n=52)	Young (n=21)	Old (n=63)
NOMINATIONS								
Academic Achievement								
1. Good	14%	23%	20%	24%	6%	31%	33%	21%
2. Poor	18	13	33	15	24	12	10	16
Social Skills								
3. Good	21	23	13	24	18	29	10	19
4. Poor	24	15	20	11	12	13	19	8

* Difference Significant at $p < .05$

VI. CONCLUSIONS

Data from this study provide only moderate support for the hypothesis that children who enter grade one at an early age are at a continuing disadvantage relative to their peers. Although means and proportions for the different groups fall quite consistently into the predicted pattern, few of the differences are statistically significant. It appears that there is enough variability among students in each of the age groups to override differences between the groups.

The one grade where significant differences were quite consistently found was grade 8. At this level, there were significant differences among age groups in sociogram scores, school grades, and Gates-MacGinitie Vocabulary and Total test results. There were also significantly more young than old students receiving remedial help, and more old students nominated by teachers as doing well academically. It is difficult to explain why differences should appear at this level, and not in previous grades. It may be that relative age becomes increasingly salient at 13 to 14 years of age when the transition to adolescence is occurring. It may also be that differences are particularly strong in this group due to chance effects in the sampling procedure.

Results for grade 2 and 6 tend to follow the same pattern as those in grade 8, but with few statistically significant differences. In grade 10 there were either no differences, or differences favouring the younger student. These results become very difficult to interpret, however because of the very low number of young entry age students in this grade.

One of the strongest findings of the study in terms of overall effect on children's lives is the proportion of young children repeating one or more grades. While approximately 12% of all students were reported as having repeated a grade, 18% of the young students have repeated a grade at some time. The percentage of failures is particularly high among young boys (40% in grade 2). This high failure rate may be a combined result of two factors. Very young boys may experience more difficulties in grade 1, and teachers and parents may be more willing to keep young students back a year than they are for older ones.

This differential failure rate may have acted to reduce overall differences in the study as a whole, since students who are held back a year become some of the oldest in the grade, regardless of age at school entry. The differential effect of these two factors: entry age and current age relative to classmates would have to be examined in a much larger study.

VII. RECOMMENDATIONS

1. That the Board of Trustees of the St. Albert Protestant Separate School District No. 6 revise the policy and regulations to change the entrance age date by two months from February 28 to the preceding December 31, effective December 31, 1982 for Early Childhood Students and effective December 31, 1983 for Grade One students.

2. That the Board of Trustees of the St. Albert Protestant Separate School District No. 6 undertake a review of the revised policy and regulations regarding grade one entrance age in five years time.

3. That the Administration of the St. Albert Protestant Separate School District No. 6 utilize the findings from the Grade One Entrance Age Study to prepare information packages regarding the need for the change in policy for distribution to all interest groups. These interest groups should include:

   a) Parents - to help parents understand the implications of early entrance to grade one

   b) Teachers, Administrators, Counsellors - to help staff members adjust expectations with respect to students who have entered school at an earlier age

   c) Other agencies or groups such as Early Childhood Services, Alberta Education, etc. to inform them of the proposed policy changes in order that satisfactory adjustments and planning can take place.

4. That the St. Albert Protestant Separate School District No. 6 cooperate with appropriate agencies and departments of the provincial government in seeking other institutional alternatives for some of those children who are too young to enter school. e.g. daycare centres, playschools, babysitting centres.

5. That the St. Albert Protestant Separate School District No. 6 continue to explore alternatives which will help the school be better prepared for the needs of students at school entrance, e.g. low enrolment grade one classes; extending the number of years in division one without students experiencing a sense of failure; individualizing programs, eliminating or modifying the grade system in elementary school.

6. That the St. Albert Protestant Separate School District No. 6 review present policies and practises with respect to the retention of students particularly at the grade two level.

7. That the St. Albert Protestant Separate School District No. 6 recommend that further research into the entrance age question be undertaken

   a) on a provincial basis by the ASTA or Alberta Education

   b) in another jurisdiction which could provide more students in the sample at each grade level

   c) In St. Albert or another jurisdiction on a longitudinal basis so that a particular group of students could be followed over several years

d) to determine any harmful effects relating to above average students who enter school at a later age.

VIII. LITERATURE REVIEW BIBLIOGRAPHY

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PROJECT SUMMARY

PROJECT TITLE: Grade One Entrance Age Study

PROJECT DIRECTOR: J. B. Findlater

WHERE CARRIED OUT: St. Albert Protestant Separate School District No. 6
60 Sir Winston Churchill Avenue
St. Albert, Alberta T8N 0G4

STARTING DATE: June 1, 1981 DATE OF COMPLETION: June 30, 1981

PROBLEM AREAS EXAMINED (PURPOSE OF PROJECT):

The study compared the academic and social development of students who entered grade one very early (5 years, 6 months or 5 years, 7 months), in the mid range (5:8 to 6:3) and very late (6:4 or older). The purpose for the study was to determine whether or not those children who begin grade one relatively young may have continuing problems in both academic and social functioning.

DESIGN OF THE PROJECT (METHOD):

In order to assess short and long-term effects of school entrance age, a cross-sectional study was conducted, examining academic and social adjustment indicators in four grades.

Through random selection of classrooms, approximately 200 students in grades 2, 6, 8 and 10 were chosen for the study (this represents approximately 2/3's of the St. Albert school population at these grade levels).

Data was collected through a combination of standardized tests, teacher ratings, questionnaires, and school records assessment. A summary of measures included is indicated in the report.

MAJOR FINDINGS OR OUTCOMES:

The major findings or results of the study stated very briefly are as follows:

a) Young students in grades 2, 6 and 8 repeated grades more often than older students.

b) In grades 6 and 8, young students received more remedial help; in grade 10, the reverse was found.

c) Older students consistently score higher on readiness tests at the beginning of grade one than younger students.

d) On a standardized measure of reading skill, older students in grade 8 scored higher than younger students. The same pattern was found in grade 6, but was not significant. In grades 2 and 10 there were no differences.

e) There were no differences in report card grades for old and young students in grades 2, 6 or 10. In grade 8, older students received higher scores than younger ones in Science, Social Studies and Physical Education.

f) There were no significant interactions between cognitive ability and entry age for academic or social variables. (Testing and analysis done only in grade 8).

g) On a self-concept inventory, older students scored consistently higher than younger ones, but the difference was significant only in grade 6.

h) Teachers' assessments of behavior problems indicated no significant differences among groups in grades 8 and 10, and only scattered differences in grades 2 and 6. Specifically, in grade 2, younger students were seen to be more impulsive and to disrupt class discipline more frequently than older ones. In grade 6, differences occurred in the amount of fighting or quarrelling, needing to be coaxed to work with others, and becoming sick when faced with a problem.

i) Sociogram results indicate that older grade 2 students are more likely to be chosen by their classmates for a ball team, and that older grade 8 students are more likely to be chosen in all categories, particularly in planning a party.

j) The only significant difference in the proportion of young and old students chosen by their teachers as 'good' or 'poor' in achievement was in grade 8, although differences in grades 2 and 6 were also in the predicted direction.

In conclusion, results of this study do not refute the general finding in the literature that young children are at a continuing disadvantage, relative to their peers, but they do not lend strong support to the idea. A surprising result is the magnitude of the effects in grade 8, where previous research has found the effect of relative age to have diminished.

In terms of administrative decisions, results of this study do not provide a clear statistical rationale for raising the entry age. They do provide evidence that at least some very young students score lower than their peers in academic and social areas, and that this difference persists into Junior High School, but differences within any age group tend to over-ride differences between ages. Results do indicate that young students are more at risk in terms of repeating a grade than older students, but this is at least partially a result of lesser reluctance to hold a young student back.

Results of the study must also be interpreted in terms of relative age, since regardless of cut off dates for entry there will always be some students younger than others in a grade. Raising the entry date would not affect this, although it might reduce the age span in a grade since some children appear to be starting a year later than expected.

RECOMMENDATIONS OR IMPLICATIONS:

The recommendations from the study are as follows:

1. That the Board of Trustees of the St. Albert Protestant Separate School District No. 6 revise the policy and regulations to change the entrance age date by two months from February 28 to the preceding December 31, effective December 31, 1982 for Early Childhood Students and effective December 31, 1983 for Grade One students.

2. That the Board of Trustees of the St. Albert Protestant Separate School District No. 6 undertake a review of the revised policy and regulations regarding grade one entrance age in five years time.

3. That the Administration of the St. Albert Protestant Separate School District No. 6 utilize the findings from the Grade One Entrance Age Study to prepare information packages regarding the need for the change in policy for distribution to all interest groups. These interest groups should include:

   a) Parents - to help parents understand the implications of early entrance to grade one

   b) Teachers, Administrators, Counsellors - to help staff members adjust expectations with respect to students who have entered school at an earlier age

   c) Other agencies or groups such as Early Childhood Services, Alberta Education, etc. to inform them of the proposed policy changes in order that satisfactory adjustments and planning can take place.

4. That the St. Albert Protestant Separate School District No. 6 cooperate with appropriate agencies and departments of the provincial government in seeking other institutional alternatives for some of those children who are too young to enter school. e.g. daycare centres, playschools, babysitting centres.

5. That the St. Albert Protestant Separate School District No. 6 continue to explore alternatives which will help the school be better prepared for the needs of students at school entrance, e.g. low enrolment grade one classes; extending the number of years in division one without students experiencing a sense of failure; individualizing programs, eliminating or modifying the grade system in elementary school.

6. That the St. Albert Protestant Separate School District No. 6 review present policies and practises with respect to the retention of students particularly at the grade two level.

7. That the St. Albert Protestant Separate School District No. 6 recommend that further research into the entrance age question be undertaken

   a) on a provincial basis by the ASTA or Alberta Education

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